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are used, their tips must have the same radius of curvature in the horizontal plane so that if the probes are not on an exact radius of the mold the distances measured will be consistent.

We claim:

1. In a gyratory compactor having a mold which holds material being compacted at an angle, said mold having an interior wall, a device for measuring the angle of compaction of said material during operation of the compactor comprising self-contained means for placement within said mold underneath the material being compacted, said self-contained means measuring a distance which is related to said angle of compaction and transmitting said distance to recording means outside of said compactor.

2. A gyratory compactor as in claim 1 wherein said device contains two means for contacting the interior wall of said old at two points.

3. A gyratory compactor as in claim 2 wherein said two means for contacting said wall are vertically displaced from each other and are in vertical alignment.

4. A gyratory compactor as in claim 3 wherein said two means for contacting the interior wall of said mold are mounted on a common carrier.

5. A gyratory compactor as in claim 4 wherein one of said means for contacting the interior wall causes said common carrier to move as a unit.

6. A gyratory compactor as in claim 5 wherein the other of said means for contacting the interior wall moves independently of said common carrier.

7. In a gyratory compactor having a mold which holds material being compacted at an angle, a device to be placed underneath the material being compacted for measuring the angle of compaction of said material while said compactor is in operation comprising first means for measuring the displacement of the inside of the mold at a first point, second means for measuring the displacement of the inside of the

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mold at a second point, and means for transmitting the difference between said displacements to recording means outside of said compactor.

8. A gyratory compactor as in claim 7 wherein said first displacement measuring means and said second displacement measuring means are vertically displaced from each other.

9. A gyratory compactor as in claim 8 wherein said first displacement measuring means and said second displacement measuring means are in vertical alignment.

10. A gyratory compactor as in claim 9 wherein both of said displacement measuring means are on a common carrier.

11. A gyratory compactor as in claim 10 wherein one of said displacement measuring means can move relative to the other.

12. In a gyratory compactor having a mold which holds material being compacted at an angle, said mold having an inside, a method of measuring the angle of compaction of said material while said compactor is in operation which comprises placing underneath the material being compacted a device having the capability of measuring the displacement of the inside of the mold at two points, measuring the displacement of the inside of the mold at a first point, measuring the displacement of the inside of the mold at a second point, and determining the difference between said displacements.

13. The method of claim 12 wherein said first and said second points are in vertical alignment.

14. The method of claim 12 wherein said first and said second points are vertically displaced from each other.

15. The method of claim 14 further comprising transmitting said measurements to recording means outside of said compactor.

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